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IS 7258 (1990): Woodworking Machines - Single Spindle  
Moulding Machines - Nomenclature and Acceptance Conditions  
[PGD 3: Machine Tools]



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“Knowledge is such a treasure which cannot be stolen”



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“पुनर्षष्ट १९९५”  
“RE-AFFIRMED 1995”

IS 7258 : 1990  
ISO 7009 : 1983

*Indian Standard*

**WOODWORKING MACHINES—SINGLE SPINDLE  
MOULDING MACHINES — NOMENCLATURE  
AND ACCEPTANCE CONDITIONS**

*( First Revision )*

UDC 674.057 : 621.941.234.620.1 ( 084.3 )

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

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Price Group 6

*Indian Standard*

**WOODWORKING MACHINES—SINGLE SPINDLE  
MOULDING MACHINES—NOMENCLATURE  
AND ACCEPTANCE CONDITIONS**

*( First Revision )*

**NATIONAL FOREWORD**

This Indian Standard ( First Revision ), which is identical with ISO 7009 : 1983 'Woodworking machines — Single spindle moulding machines — Nomenclature and acceptance conditions', issued by the International Organization for Standardization ( ISO ), has been adopted by the Bureau of Indian Standards on 5 January 1990 on the recommendations of the Woodworking Machine Tools Sectional Committee ( PED 1 ) and approval of the Production Engineering Division Council.

This standard was first issued in 1974 as 'Test charts for woodworking single spindle moulding machines'. Consequent upon the publication of ISO 7009 : 1983 this standard ( including its title ) has been revised by adopting the ISO standard, to bring it in line with international practice.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma ( . ) has been used as a decimal marker in the International Standard while in Indian Standards, the current practice is to use point ( . ) as the decimal marker.
- c) Only the English language text of the International Standard has been retained while adopting it in this Indian Standard.

**CROSS REFERENCES**

In this Indian Standard, the following international standard is referred to. Read in its place the following:

<i>International Standard</i>	<i>Indian Standard</i>	<i>Degree of Correspondence</i>
ISO R/230 Test code for machine tools ( since revised as ISO 230/1 : 1986 )	IS 2063 : 1988 Code for testing machine tools ( <i>first revision</i> )	Identical

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## 1 Scope and field of application

This International Standard specifies the terminology appropriate to each part of the machine and, with reference to ISO/R 230, the geometrical test for single spindle moulding machines and gives the corresponding permissible deviations which apply to machines for general purpose use and normal accuracy.

This International Standard deals only with the verification of accuracy of the machine. It does not apply to the testing of the running of the machine (vibrations, abnormal noises, stick-slip motion of the components etc.), nor to its characteristics (speeds, feeds etc.) which should generally be checked before testing accuracy.

This International Standard does not impose any practical test for single spindle moulding machines. Practical tests should be exceptions and have to be stated in a previous agreement between the producer and the user.

## 2 Reference

ISO/R 230, *Test code for machine tools*.

## 3 Preliminary remarks

**3.1** In this International Standard all the dimensions and permissible deviations are expressed in millimetres.

**3.2** To apply this International Standard, reference should be made to ISO/R 230, especially for installation of the machine before testing, the warming up of the main spindle and other moving parts and description of measuring methods. The measuring instruments shall not permit errors over 1/3 of the checked tolerances.

**3.3** The sequence in which the geometrical tests are given is related to the sub-assemblies of the machine and this in no way defines the practical order of testing. In order to make mounting of instruments or gauging easier, tests may be applied in any order.

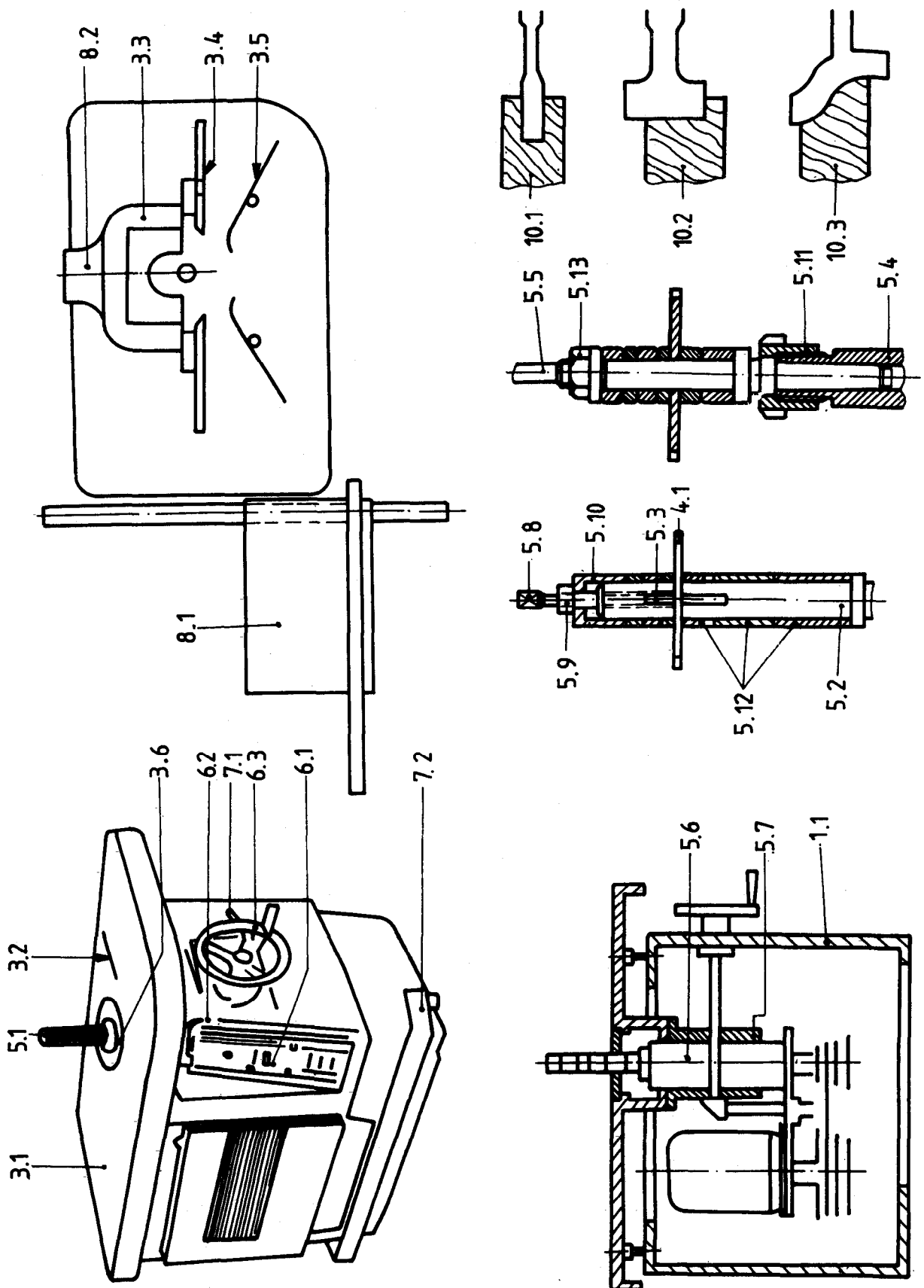
**3.4** When inspecting a machine, it is not always possible or necessary to carry out all the tests given in this International Standard.

**3.5** It is up to the user to choose, in agreement with the manufacturer, those tests relating to the properties which are of interest to him, but these tests are to be clearly stated when ordering a machine.

**3.6** A movement is longitudinal when it takes place in the working direction of the piece.

**3.7** When establishing the tolerance for a measuring range different from that given in this International Standard (see 2.311 in ISO/R 230), it should be taken into consideration that the minimum value of the tolerance is 0,01 mm.

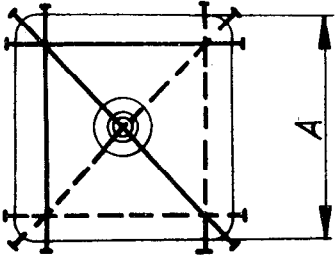
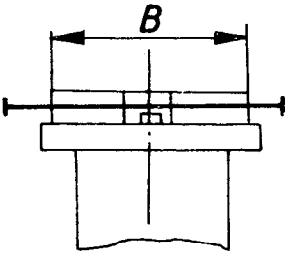
4 Nomenclature

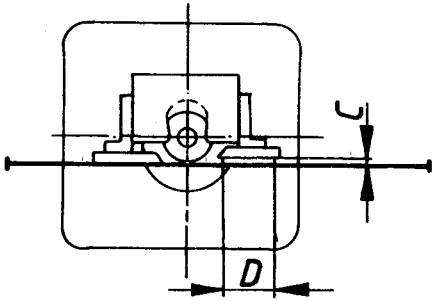
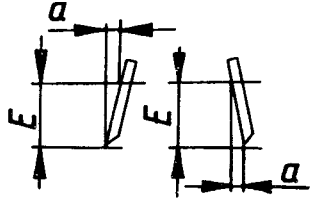


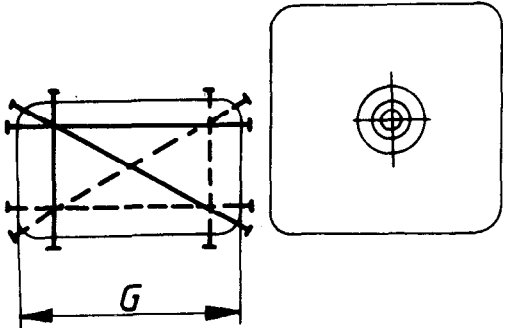
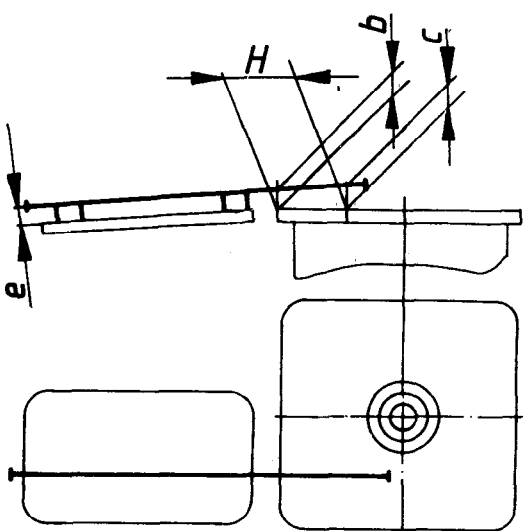


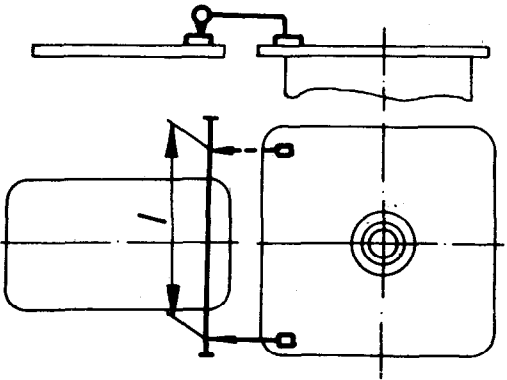
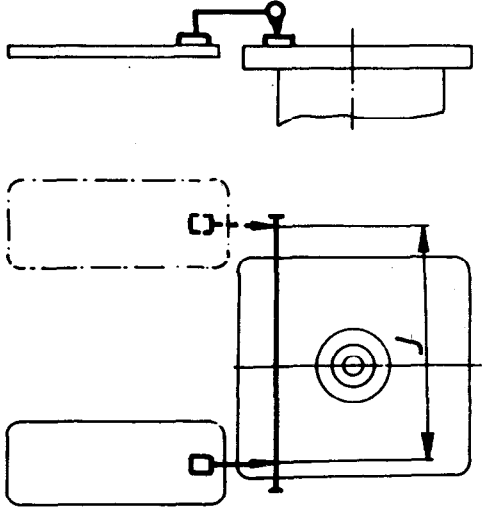
Ref.	English
	Single spindle moulding machine
1	<b>Framework</b>
1.1	Main frame
2	<b>Feed of workpiece and/or tools</b>
3	<b>Workpiece support clamp and guide</b>
3.1	Table
3.2	Table slot
3.3	Fence
3.4	Fence plates
3.5	Pressures
3.6	Table rings
4	<b>Toolheads and tools</b>
4.1	Cutter
5	<b>Workheads and tool drives</b>
5.1	Spindle
5.2	French spindle
5.3	French spindle slot
5.4	Main spindle
5.5	Loose top spindle
5.6	Main spindle housing
5.7	Main spindle slide
5.8	French spindle locking screw
5.9	Locknut for locking screw
5.10	French cap
5.11	Main spindle top nut
5.12	Spacing collar
5.13	Top spindle nut
6	<b>Control</b>
6.1	Starting switches
6.2	Spindle lock
6.3	Spindle vertical adjustment
7	<b>Safety devices</b>
7.1	Spindle brake
7.2	Brake pedal
8	<b>Miscellaneous</b>
8.1	Travelling table
8.2	Dust extraction outlet
9	<b>Free</b>
10	<b>Examples of work</b>
10.1	Grooving
10.2	Rebating
10.3	Moulding

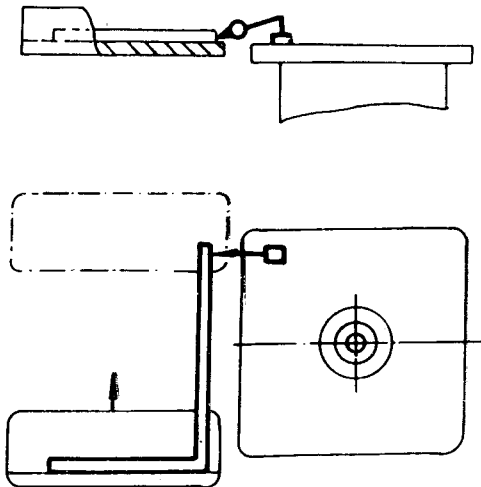
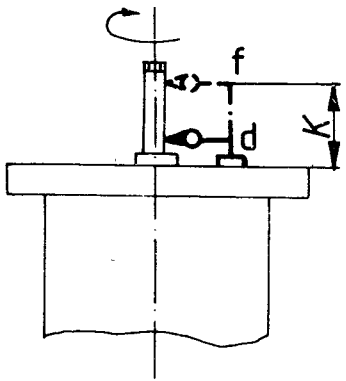
## 5 Acceptance conditions and permissible deviations

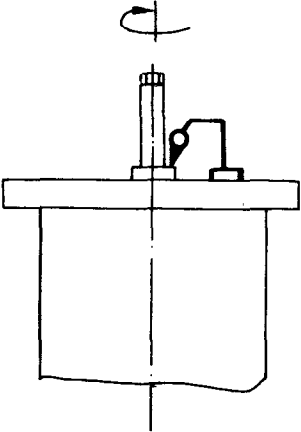
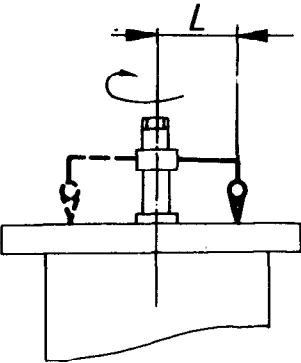
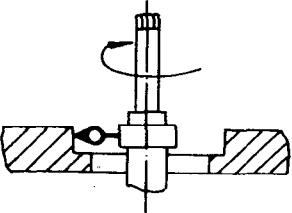
No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G1		<p>Checking flatness of the table</p> <p>a) longitudinal straightness</p> <p>b) transverse straightness</p> <p>c) diagonal straightness</p>	<p>a) and b)</p> <p>0,10 for <math>A &lt; 630</math>  0,15 for <math>630 &gt; A &lt; 1250</math>  0,20 for <math>A &gt; 1250</math></p> <p>c)</p> <p>0,15 for <math>A &lt; 630</math>  0,25 for <math>630 &gt; A &lt; 1250</math>  0,30 for <math>A &gt; 1250</math></p>	<p>Straightedge and feeler gauges</p>	<p>Clause 5.212 and 5.322</p>
G2		<p>Checking straightness of the fence plates</p>	<p>Metal plates</p> <p>0,10 for <math>B &lt; 630</math>  0,15 for <math>B &gt; 630</math></p> <p>Wooden plates</p> <p>0,30 for <math>B &lt; 630</math>  0,40 for <math>B &gt; 630</math></p>	<p>Straightedge and feeler gauges</p>	<p>Clause 5.212</p>

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G3		Checking parallelism of the fence plates	Metal plates 0,05 Wooden plates 0,20	Straightedge and feeler gauges	Clause 5.412.2 The measurement shall be made for $C = 2$ cutting depth. Tolerance on $D = 200$ in length.
G4		Checking squareness of the fence plates with respect to the table	Metal plates $0,10/100^*$ Wooden plates $0,20/100^*$	Square and feeler gauges	Clause 5.212.1 * Distance $E$

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G5		<p>Checking flatness of the auxiliary travelling table</p> <p>a) longitudinal straightness</p> <p>b) transverse straightness</p> <p>c) diagonal straightness</p>	<p>a) and c)</p> <p>0,20 for <math>G &lt; 630</math> 0,30 for <math>G &gt; 630</math></p> <p>b)</p> <p>0,20</p>	<p>Straightedge and feeler gauges</p>	<p>Clause 5.212 and 5.322</p>
G6		<p>Checking parallelism of the auxiliary travelling table with respect to the fixed table in the horizontal plane</p>	<p><math>H = 450</math></p> <p><math>b - e = 0,10</math></p> <p><math>c - e = 0,10</math></p> <p><math>b &lt; c</math></p>	<p>Straightedge and feeler gauges</p>	<p>Clause 5.322</p> <p>The measurement shall be made over the distance <math>H</math> from the edge of the table in three positions.</p> <p>The auxiliary travelling table shall be always higher than the table.</p>

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G7		Checking parallelism of the auxiliary travelling table of the machine in the feed direction	0,10 for $I = 450$	Straightedge and dial gauge	<p>Clause 5.412.2</p> <p>The measurement shall be made at two points of the straightedge at a distance <math>I</math>.</p>
G8		Checking parallelism in a vertical plane of the travelling table motion with respect to the table of the machine	0,10 for $J = 500$	Straightedge and dial gauge	<p>Clause 5.422.22</p>

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G9		Checking squareness of the fence of the travelling table with respect to its motion	0,10/500	Square and dial gauge	Clause 5.522.2
G10		Measuring run-out of spindle	<p>Deviation <math>e</math> in positions <math>d</math> and <math>f</math> must meet the relations</p> <p><math>e_d = 0,03</math> for <math>v &lt; 6\ 000</math>  <math>0,02</math> for <math>v &gt; 6\ 000</math></p> <p><math>e_f = 0,04</math> for <math>v &lt; 6\ 000</math>  <math>0,03</math> for <math>v &gt; 6\ 000</math></p> <p>where <math>v</math> is the spindle rotation speed in revolutions per minute</p>	Dial gauge and test mandrel	<p>Clause 5.612.2</p> <p>The measurement shall be made at the shoulder and at the top of the test mandrel, or at <math>K = 200</math> whichever is the less.</p>

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G11		Measuring camming of the spindle shoulder	0,02	Dial gauge and test mandrel	Clause 5.632
G12		Checking squareness of the spindle with respect to the table	0,10/300*	Dial gauge and test mandrel	Clause 5.512.42 * Distance <i>L</i>
G13		Checking concentricity of the table rings with respect to the spindle	0,20	Dial gauge and test mandrel	Clause 5.442 The measurement shall be made only when the rings are used as a guide.

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